

## REMARKS

### *Overview:*

In the Office Action under reply, the first Action on the merits, claims 1-34 are pending and have been examined. Claims 1, 2, 6-9, 13, 21, 22, 28, and 33 are objected to because of irregularities. Claims 1-34 are rejected.

The claim rejections are as follows:

- (1) claims 1-34 are rejected under 35 U.S.C. §112, 2<sup>nd</sup> paragraph, as indefinite;
- (2) claims 1-4, 6, 9-13, 15, 18-26, and 33 are rejected under 35 U.S.C. §102(b) as anticipated by Nishimura et al. (US 4,597,882, hereinafter “Nishimura”);
- (3) claims 7, 8, 16 and 17 are rejected under 35 U.S.C. §103(a) as unpatentable over Nishimura;
- (4) claim 34 is rejected under 35 U.S.C. §103(a) as unpatentable over Ohnuki et al. (US 5,292,585, hereinafter “Ohnuki”) in view of Nishimura;
- (5) claims 1, 3-10, 12-19, 21-31, and 34 are rejected under 35 U.S.C. §103(a) as unpatentable over Shinomoto et al. (US 5,498,359, hereinafter “Shinomoto”); and
- (6) claim 32 is rejected under 35 U.S.C. §103(a) as unpatentable over Shinomoto in view of Karle et al. (US 5,116,685, hereinafter “Karle”).

The claim rejections are overcome in part by the amendments made herein and are otherwise traversed for at least the reasons set forth below.

### *Claim amendments:*

With the amendments made herein, claims 1 and 10 have been amended to specify that the solution comprises about 0.001-1 parts by weight of perfluorinated polyether to about 99-99.999 parts by weight of the solvent and solubilizer combined. Support for this amendment can be found in original claim 21, paragraph [0033] of the specification, and Example 2 of the specification. Original claim 21 states that the lower range of perfluorinated polyether is about 0.001 parts by weight, while Example 2 provides support for a solution containing 1 wt% perfluorinated polyether. Claims 1 and 10 have also been amended to incorporate the limitation that the weight ratio of solubilizer to fluorinated solvent is either about the azeotropic ratio or within the range of about 2:98 to 10:90, or is both about the azeotropic ratio and within the range of about 2:98 to 10:90. Support for this amendment can be found in claims 2 and 11 (which have

been canceled accordingly), as well as in paragraph [0031] of the specification. Claim 18 has been amended to incorporate the limitations of claim 19 (the weight ratio of solubilizer to fluorinated solvent is within the range of about 2:98 to 10:90), and to specify that the solution comprises about 0.001-1 parts by weight of perfluorinated polyether to about 99-99.999 parts by weight of the solvent and solubilizer combined. Accordingly, claims 19, 21 and 22 have been canceled. Again, as with the amendment to claims 1 and 10, support for the amendments to claim 18 can be found in paragraphs [0031], [0033] and Example 2 of the specification.

Regarding the Examiner's objections to claim 1, 2, 6-8, and 9 for lack of antecedent basis ("the solvent" in claims 1 and 6, "fluorinated solvent" in claims 2 and 9, "the perfluorinated polyether" in claims 6-8), these claims have been corrected.

Regarding the Examiner's objection to claims 9 and 33, applicant's use of the term "and" in the original wording of these claims was meant to imply that the term "fluorinated" applied to both amines and cyclic ethers. To remove any ambiguity, however, claims 9 and 33 have been amended to recite "fluorinated cyclic ethers." Support for this amendment can be found in paragraph [0026] of the original specification.

Regarding the Examiner's objection to claims 13 and 28, the period after "trifluoroethanol" has been replaced with a comma.

Regarding the Examiner's objection to claims 21 and 22, these claims have been canceled.

***Rejection under 35 U.S.C. §112:***

Claims 1, 3-5, 9, 10, 12-14, 18, 24, 26, 28, 31 and 33 stand rejected under 35 U.S.C. §112, 2<sup>nd</sup> paragraph, as indefinite. The Examiner states that the claims appear to improperly recite a Markush group. This rejection is traversed.

Claim 1, for example, uses the language "the solubilizer is selected from alcohols and cyclic ethers," and this language is endorsed by the USPTO as an acceptable recitation of a Markush group. Applicants direct the Examiner's attention to the TRAINING MATERIALS FOR EXAMINING PATENT APPLICATIONS WITH RESPECT TO 35 U.S.C. SECTION 112, FIRST PARAGRAPH-ENABLEMENT OF CHEMICAL/BIOTECHNICAL APPLICATIONS, available from the USPTO at the following website:  
<http://www.uspto.gov/web/offices/pac/dapp/1pecba.htm#7a>. In this training manual, under

Example H, several claims are presented which use Markush language that is similar to the language of the instant application (i.e., "...HET is a 5- or 6-membered heterocyclic ring containing at least one hetero atom selected from N, S and O...").

In addition to the fact that the USPTO specifically endorses the Markush language of the instant claims, 35 U.S.C. §112, 2<sup>nd</sup> paragraph, makes no restrictions on acceptable claim language, accept to say that the claims must "particularly point out and distinctly claim the subject matter which the applicant regards as his invention." Indeed, the MPEP §2173.05(h), cited by the Examiner, states that "[a]lternative expressions are permitted if they present no uncertainty or ambiguity with respect to the question of scope or clarity of the claims." The language used in the present claims clearly identifies the scope of each claim. For example, one of ordinary skill in the art would immediately understand the intended meaning of "the solubilizer is selected from alcohols and cyclic ethers," as recited in claim 1. The USPTO would seem to be in agreement, as evidenced by the specific endorsement of this claim language in the abovementioned training materials for examining patent applications. Accordingly, applicants respectfully request withdrawal of the rejection.

Claims 6-8 stand rejected under 35 U.S.C. §112, 2<sup>nd</sup> paragraph, because the term "the solution" lacks antecedent basis. By the amendments made herein, such antecedent basis has been provided, and applicants request withdrawal of the rejection.

Claims 2, 7, 11, 15-17, 19-23, 25, 27, 29, 30, 32, and 34 stand rejected under 35 U.S.C. §112, 2<sup>nd</sup> paragraph, for being dependent upon a rejected claim. In light of the amendments made herein, and the arguments set forth above, applicants request withdrawal of the rejection.

***Rejection under 35 U.S.C §102:***

Claims 1-4, 6, 9-13, 15, 18-26, and 33 stand rejected under 35 U.S.C. §102(b) as anticipated by Nishimura. This rejection is traversed.

The Examiner cites Nishimura as disclosing waste oils (perfluorinated polyethers) added to an azeotropic mixture of trichlorotrifluoroethane and ethanol or trichlorotrifluoroethane and isopropanol. Specifically, 0.5-10 parts by weight of the combined solvent and solubilizer mixture is used per 1 part by weight of the waste oils. The mixtures discussed in Nishimura therefore contain *up to* 10 times (by weight) more of the solvent and solubilizer compared with the waste oils. In contrast, claim 1 requires a solution that comprises about 0.001-1 parts by weight of

perfluorinated polyether to about 99-99.999 parts by weight of the solvent and solubilizer combined. The mixtures described by the claim therefore contain a *minimum* of about 99 times (by weight) more of the solvent and solubilizer compared with the perfluorinated polyether. Clearly, such a solution is not to be found in the teachings of Nishimura, and applicants respectfully request withdrawal of the rejection.

***Rejection under 35 U.S.C. §103(a) over Nishimura:***

Claims 7, 8, 16, and 17 stand rejected under 35 U.S.C. §103(a) as unpatentable over Nishimura. This rejection is traversed.

The Examiner refers to the rejection under 35 U.S.C. §102(b) over Nishimura, and states that, with respect to claims 7, 8, 16, and 17, any mixing order is obvious since no criticality for the mixing order has been established. Irregardless of whether the mixing order is critical to the invention, Nishimura does not disclose the claimed invention for at least the reasons discussed in the previous section (Rejection under 35 U.S.C. §102(b)). Furthermore, Nishimura does not suggest that the weight ratio of combined solvent and solubilizer to perfluorinated polyether may be greater than 10:1. Indeed, Nishimura provides no motivation that would lead one of ordinary skill in the art to decrease the amount of perfluorinated polyether relative to the combined amount of solvent and solubilizer. Accordingly, applicants respectfully request withdrawal of the rejection.

***Rejection under 35 U.S.C. §103(a) over Ohnuki in view of Nishimura:***

Claim 34 stands rejected under 35 U.S.C. §103(a) as unpatentable over Ohnuki in view of Nishimura. This rejection is traversed.

The Examiner states that Ohnuki discloses a perfluoropolyether lubricant that is used in a magnetic recording medium and is applied using a compatible solvent. Claim 34 requires a lubricating composition comprising “a perfluorinated polyether, a fluorinated solvent and a solubilizer selected from alcohols and cyclic ethers, wherein the composition comprises about 0.001-1 parts by weight of perfluorinated polyether to about 99-99.999 parts by weight of the solvent and solubilizer combined” (emphasis added). As stated in the MPEP §2143.03, “[t]o establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974),” The

Examiner acknowledges that Ohnuki does not teach the use of an alcohol. In fact, Ohnuki does not teach or suggest the use of a solubilizer at all, and Ohnuki certainly does not teach or suggest a composition that contains about 0.001-1 parts by weight of perfluorinated polyether to about 99-99.999 parts by weight of the solvent and solubilizer combined. As discussed above, this teaching is also not found in Nishimura. Therefore, the combination of Ohnuki and Nishimura does not provide a *prima facie* case of obviousness, and applicants respectfully request withdrawal of the rejection.

***Rejection under 35 U.S.C. §103(a) over Shinomoto:***

Claims 1, 3-10, 12-19, 21-31, and 34 stand rejected under 35 U.S.C. §103(a) as unpatentable over Shinomoto. This rejection is traversed.

The Examiner cites col. 5, lines 6-15 and col. 6, lines 14-19 of Shinomoto, stating that the reference discloses a perfluorinated polyether applied to a magnetic recording medium and dissolved in a solvent such as FREON, tetrahydrofuran, isopropanol, dioxane, and mixtures thereof. The Examiner further contends that “it would have been obvious to one of ordinary skill in the art to utilize mixtures of solvent, including the presently claimed combination.” Shinomoto, however, provides no guidance as to which solvents to use in tandem, nor does the reference provide any guidance regarding the amounts of each solvent to use. Claims 1 and 10 require that the weight ratio of solubilizer to fluorinated solvent is within the range of about 2:98 to 10:90 or is about the azeotropic ratio, and claim 18 requires that the weight ratio of solubilizer to fluorinated solvent is within the range of about 2:98 to 10:90. These limitations are neither taught nor suggested in Shinomoto; indeed, Shinomoto does not suggest that the ratio of mixed solvents is important in any way. Accordingly, the claimed invention would not be obvious to one of ordinary skill in the art from the disclosure of Shinomoto, and applicants respectfully request withdrawal of the rejection.

***Rejection under 35 U.S.C. §103(a) over Shinomoto in view of Karle:***

Claim 32 stands rejected under 35 U.S.C. §103(a) as unpatentable over Shinomoto in view of Karle. This rejection is traversed.

The Examiner cites Shinomoto as discussed above, and further cites Karle as teaching that pyran, an unsaturated cyclic ether, can be used as a solvent in magnetic recording medium.

Again, applicants refer to the MPEP §2143.03, which states that “[t]o establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).” As discussed above, Shinomoto fails to recognize or teach the limitation of the instant claims that relates to the ratio of solubilizer to fluorinated solvent. Since Karle fails even to mention the concept of mixed solvents (or of solubilizer/fluorinated solvent mixtures), it is clear that the combination of Shinomoto and Karle does not provide a *prima facie* case of obviousness over the instant claims. Accordingly, applicants respectfully request withdrawal of the rejection.

### CONCLUSION

Applicants respectfully request the issuance of a Notice of Allowance. If the Examiner has any questions concerning this communication, she is welcome to contact the undersigned at the telephone number below.

Respectfully submitted,

By:

  
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